

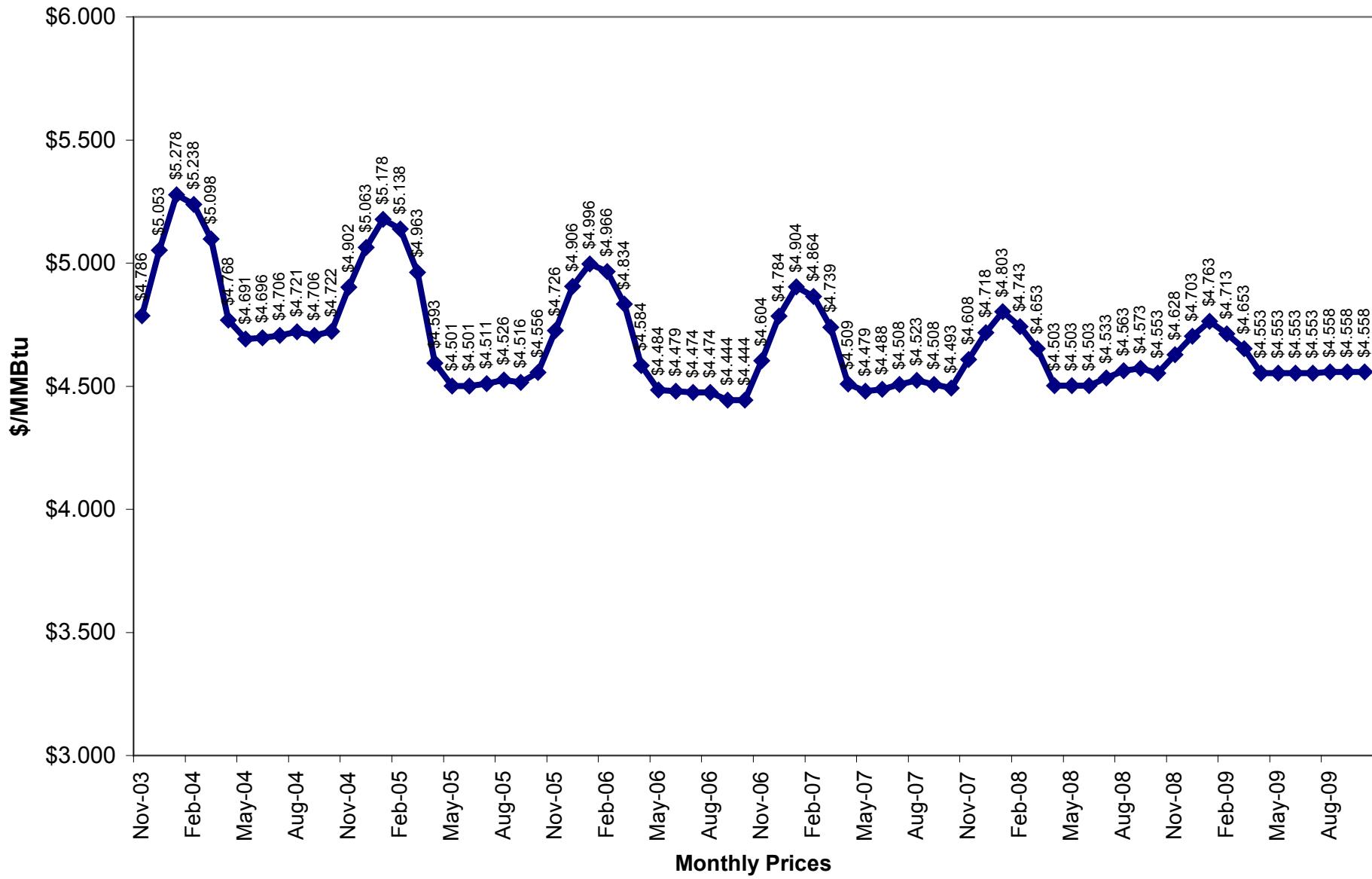
The Natural Gas Market

MARKET PRICING

- The Commodity Price
 - INDEX
 - NYMEX
- “Basis” the Locational Difference
 - Transportation Costs
- Distribution Costs
 - Bundled
 - Unbundled

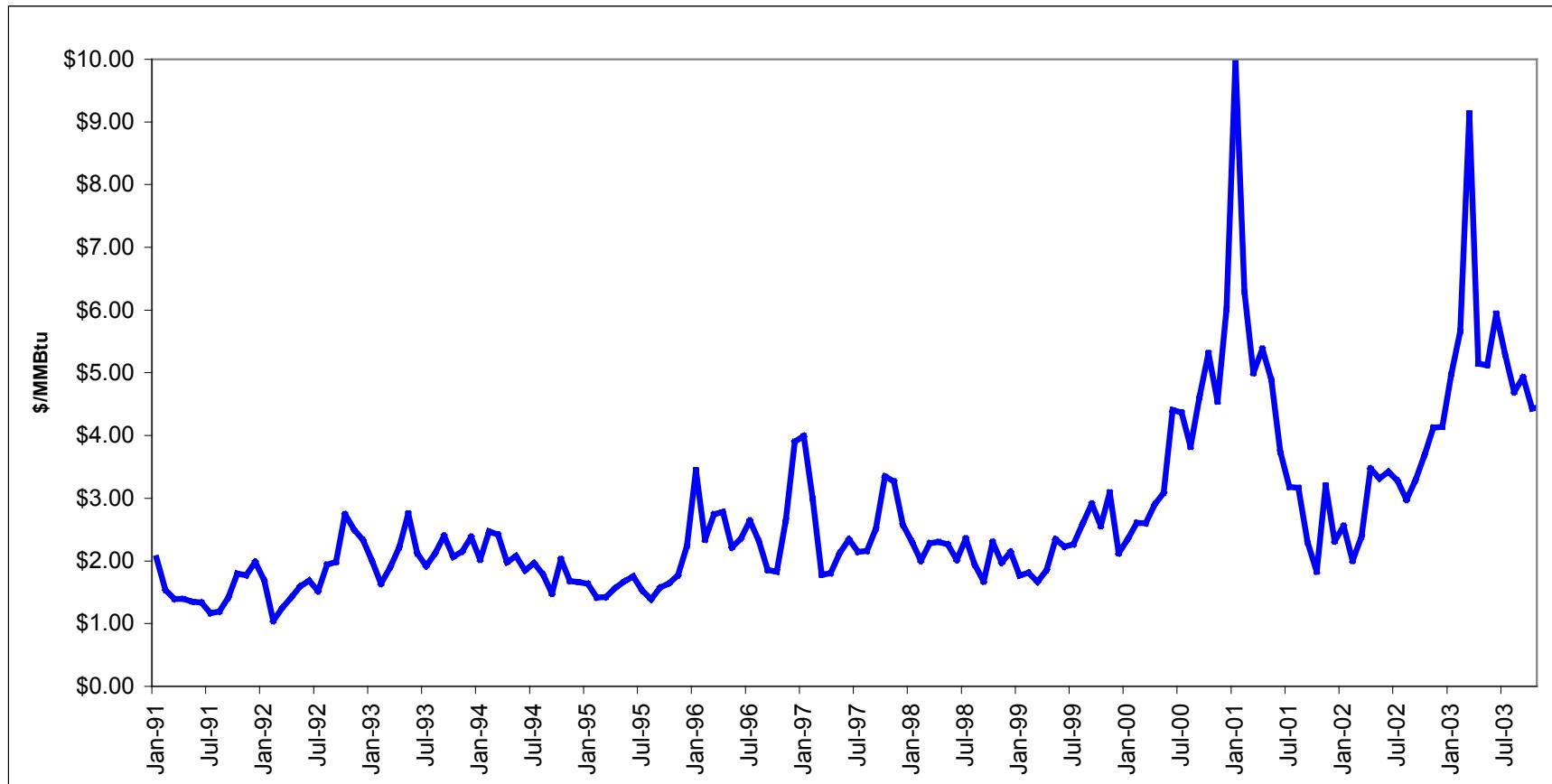
Natural Gas Futures

10/24/03



NATURAL GAS MONTHLY NYMEX SETTLEMENT - \$/MMBtu

Month	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average	5 Yr Avg
Jan		\$ 2.046	\$ 1.695	\$ 2.003	\$ 2.022	\$ 1.639	\$ 3.448	\$ 3.998	\$ 2.309	\$ 1.765	\$ 2.349	\$ 9.980	\$ 2.555	\$ 4.988	\$ 3.138	\$ 4.327
Feb		\$ 1.538	\$ 1.046	\$ 1.634	\$ 2.470	\$ 1.416	\$ 2.340	\$ 2.986	\$ 2.001	\$ 1.810	\$ 2.610	\$ 6.293	\$ 2.006	\$ 5.660	\$ 2.601	\$ 3.676
Mar		\$ 1.395	\$ 1.249	\$ 1.906	\$ 2.418	\$ 1.428	\$ 2.746	\$ 1.780	\$ 2.286	\$ 1.666	\$ 2.603	\$ 4.998	\$ 2.388	\$ 9.133	\$ 2.769	\$ 4.158
Apr		\$ 1.391	\$ 1.418	\$ 2.224	\$ 1.981	\$ 1.566	\$ 2.779	\$ 1.807	\$ 2.300	\$ 1.852	\$ 2.900	\$ 5.384	\$ 3.472	\$ 5.146	\$ 2.632	\$ 3.751
May		\$ 1.350	\$ 1.596	\$ 2.758	\$ 2.076	\$ 1.672	\$ 2.214	\$ 2.122	\$ 2.262	\$ 2.348	\$ 3.089	\$ 4.891	\$ 3.319	\$ 5.123	\$ 2.678	\$ 3.754
Jun	\$ 1.557	\$ 1.336	\$ 1.685	\$ 2.119	\$ 1.851	\$ 1.757	\$ 2.361	\$ 2.346	\$ 2.017	\$ 2.226	\$ 4.406	\$ 3.738	\$ 3.420	\$ 5.945	\$ 2.626	\$ 3.947
Jul	\$ 1.510	\$ 1.167	\$ 1.517	\$ 1.918	\$ 1.966	\$ 1.532	\$ 2.646	\$ 2.145	\$ 2.358	\$ 2.262	\$ 4.369	\$ 3.182	\$ 3.278	\$ 5.291	\$ 2.510	\$ 3.676
Aug	\$ 1.426	\$ 1.195	\$ 1.939	\$ 2.121	\$ 1.789	\$ 1.385	\$ 2.322	\$ 2.161	\$ 1.942	\$ 2.601	\$ 3.820	\$ 3.167	\$ 2.976	\$ 4.693	\$ 2.396	\$ 3.451
Sep	\$ 1.428	\$ 1.420	\$ 1.987	\$ 2.401	\$ 1.484	\$ 1.575	\$ 1.853	\$ 2.515	\$ 1.672	\$ 2.912	\$ 4.618	\$ 2.295	\$ 3.288	\$ 4.927	\$ 2.455	\$ 3.608
Oct	\$ 1.555	\$ 1.800	\$ 2.743	\$ 2.066	\$ 2.031	\$ 1.644	\$ 1.828	\$ 3.346	\$ 2.301	\$ 2.560	\$ 5.312	\$ 1.830	\$ 3.686	\$ 4.430	\$ 2.652	\$ 3.564
Nov	\$ 1.970	\$ 1.772	\$ 2.499	\$ 2.155	\$ 1.683	\$ 1.772	\$ 2.652	\$ 3.266	\$ 1.972	\$ 3.092	\$ 4.541	\$ 3.202	\$ 4.126	\$ 4.459	\$ 2.861	\$ 3.884
Dec	\$ 2.380	\$ 1.987	\$ 2.332	\$ 2.385	\$ 1.661	\$ 2.241	\$ 3.901	\$ 2.577	\$ 2.149	\$ 2.120	\$ 6.016	\$ 2.316	\$ 4.140		\$ 2.785	\$ 3.348
Average	\$ 1.689	\$ 1.533	\$ 1.809	\$ 2.141	\$ 1.953	\$ 1.636	\$ 2.591	\$ 2.587	\$ 2.131	\$ 2.268	\$ 3.886	\$ 4.273	\$ 3.221		\$ 2.440	\$ 3.156





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Spot Gas Prices Delivered to Pipelines

Region	October 2003 Incremental [1]			Oct [3]	
	10/20 Range	10/24 Avg.	Change from Prev. Week	Bidweek	Avg.
South Texas					
Agua Dulce	- - - -	- -	4.29		
El Paso GTT (Valero)	- - - -	- -	4.25		
Florida Gas Zone 1	4.20-4.92	4.69		.30	4.39
Houston Pipe Line	- - - -	- -		- -	
NGPL S. TX	4.21-4.86	4.60	-.13	.24	4.36
Tennessee	4.12-4.88	4.59	-.12	.32	4.27
Texas Eastern S. TX	4.12-4.90	4.60	-.08	.36	4.24
Transco St. 30	4.27-4.93	4.64	-.03	.36	4.28
Trunkline	- - - -	- -			4.26
Regional Avg.	4.12-4.93	4.62	-.07	.33	4.29
East Texas					
Carthage	4.24-4.89	4.64	-.13	.37	4.27
Houston Ship Channel	4.20-4.90	4.65	-.11	.40	4.25
Katy	4.18-4.91	4.64	-.14	.33	4.31
NGPL TexOk	4.20-4.90	4.63	-.15	.10	4.53
Texas Eastern E. TX	4.05-4.85	4.57	-.06	- -	
Texas Gas Zone 1	4.20-4.95	4.73	-.08	- -	
Transco St. 45	4.22-5.05	4.74	-.05	.34	4.40
Trunkline	- - - -	- -		- -	
Regional Avg.	4.05-5.05	4.66	-.10	.32	4.34
West Texas					
El Paso Permian	4.09-4.75	4.39	-.13	.25	4.14
Northern Natural Mid 1-6	- - - -	- -		- -	
Transwestern	4.04-4.51	4.30	-.25	.20	4.10
Waha	4.10-4.83	4.47	-.10	.29	4.18

WHY HEDGE?

- Substitute a current price for a future unknown price.
- Using the futures market prices to set budgets.

NATURAL GAS MARKET

- To hedge, customers need access to the futures market either through the physical supplies or through a financial instrument.
- There must be a correlation between the price for physical gas and the financial market.

MARKET ENVIRONMENT

- Where the use of energy marketers is allowed, gas users have access to spot & futures prices
- Where the gas is supplied by the utility, traditionally the cost is a moving average of historical prices. Many utilities now also offer spot & fixed prices

GAMBLING

- The creation of a risk for the sole purpose of someone taking it.
- A horse race, poker game, and roulette wheel create risks.
- Gamblers are willing to accept these risks in return for the opportunity to win money.

SPECULATION

- Risks that are present in the process of marketing goods in a free capitalistic system results in speculation.
- For natural gas, the risk of price change would be present whether or not the futures markets existed.

HEDGING

HEDGING IS DEFINED AS THE PURCHASE OR SALE OF A FUTURES OR OPTION CONTRACT AS A TEMPORARY SUBSTITUTE FOR A CASH TRANSACTION TO BE MADE AT A LATER DATE.

- A hedger offsets an anticipated future transaction in the actuals market by taking a position in the futures market to avoid the risk of price change between the period and the time of the anticipated need. The goal is to transfer the risk of price change to another market participant.

HEDGING...MINIMIZING RISK

- The relevant question is not whether the futures implied cash price is attractive relative to the current cash price, but rather whether it is attractive relative to the expected future cash price.
- A methodology of price forecasting is as important to the hedges as it is to the speculator.

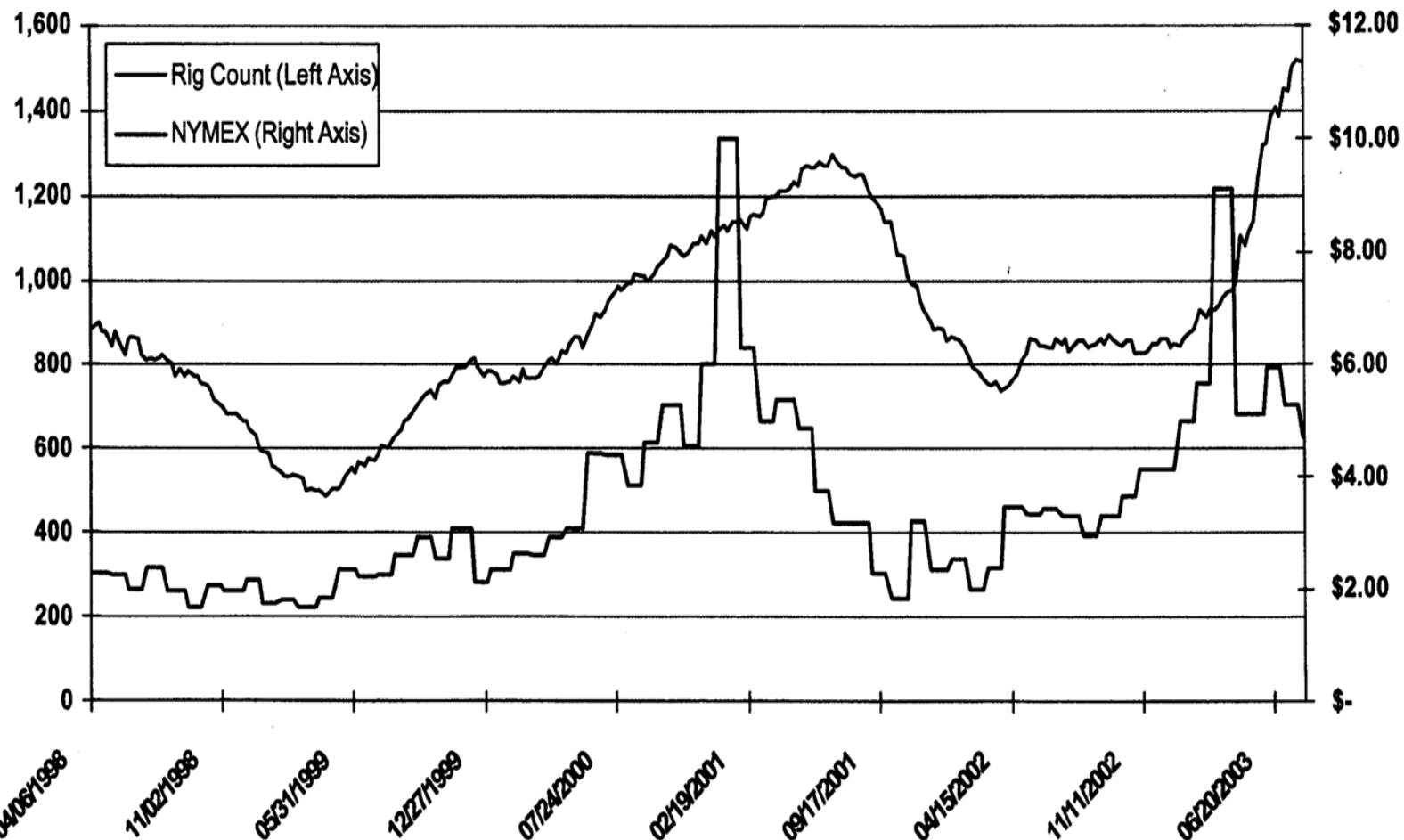
NATURAL GAS SPECULATION

- As natural gas is used by industrial customers, the risk of price change is taken by the producer and the end user.
- Ignoring the risk of price change is the most risky speculation of all. It is analogous to driving a car with your eyes closed.

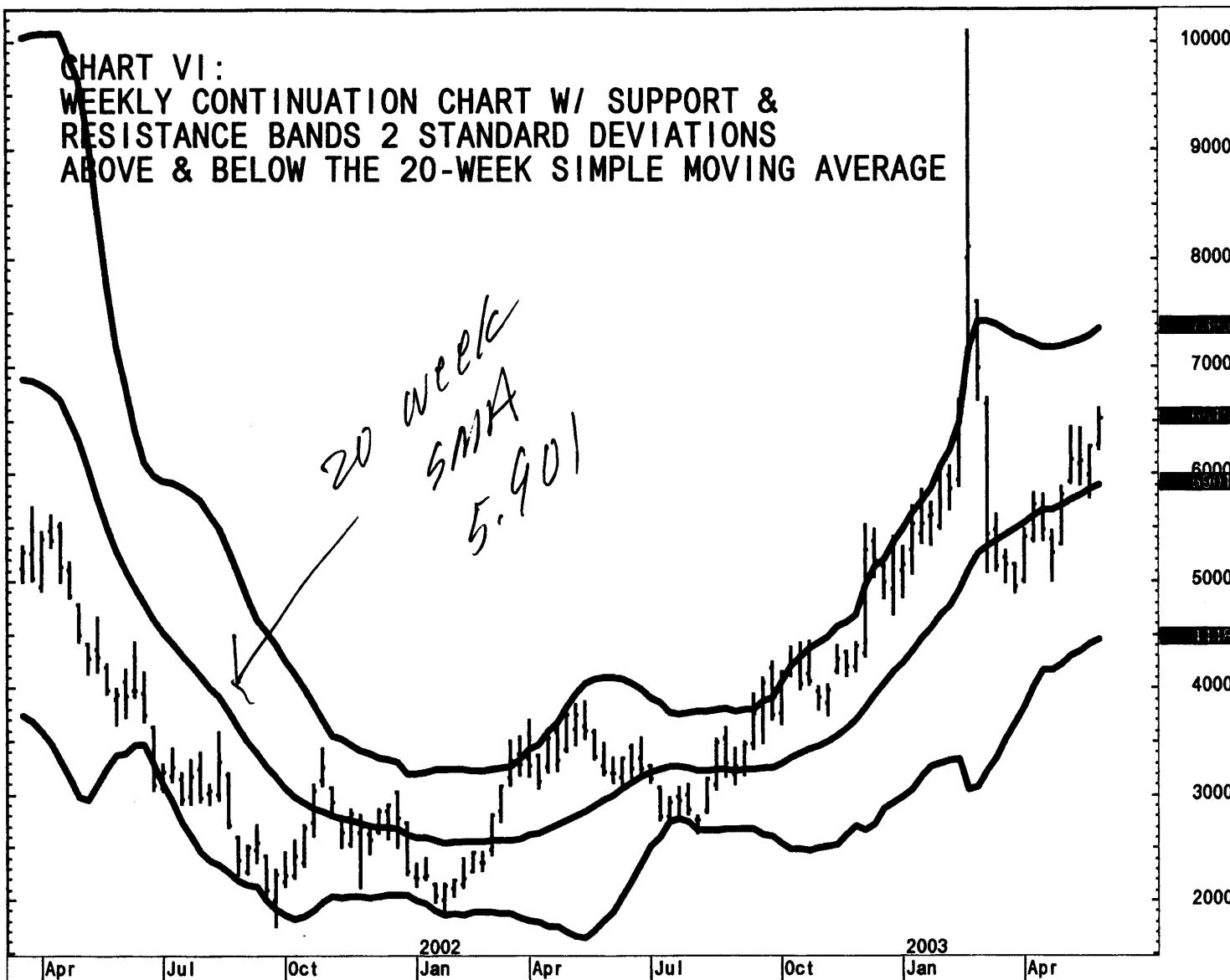
COMMODITY PRICE ANALYSIS

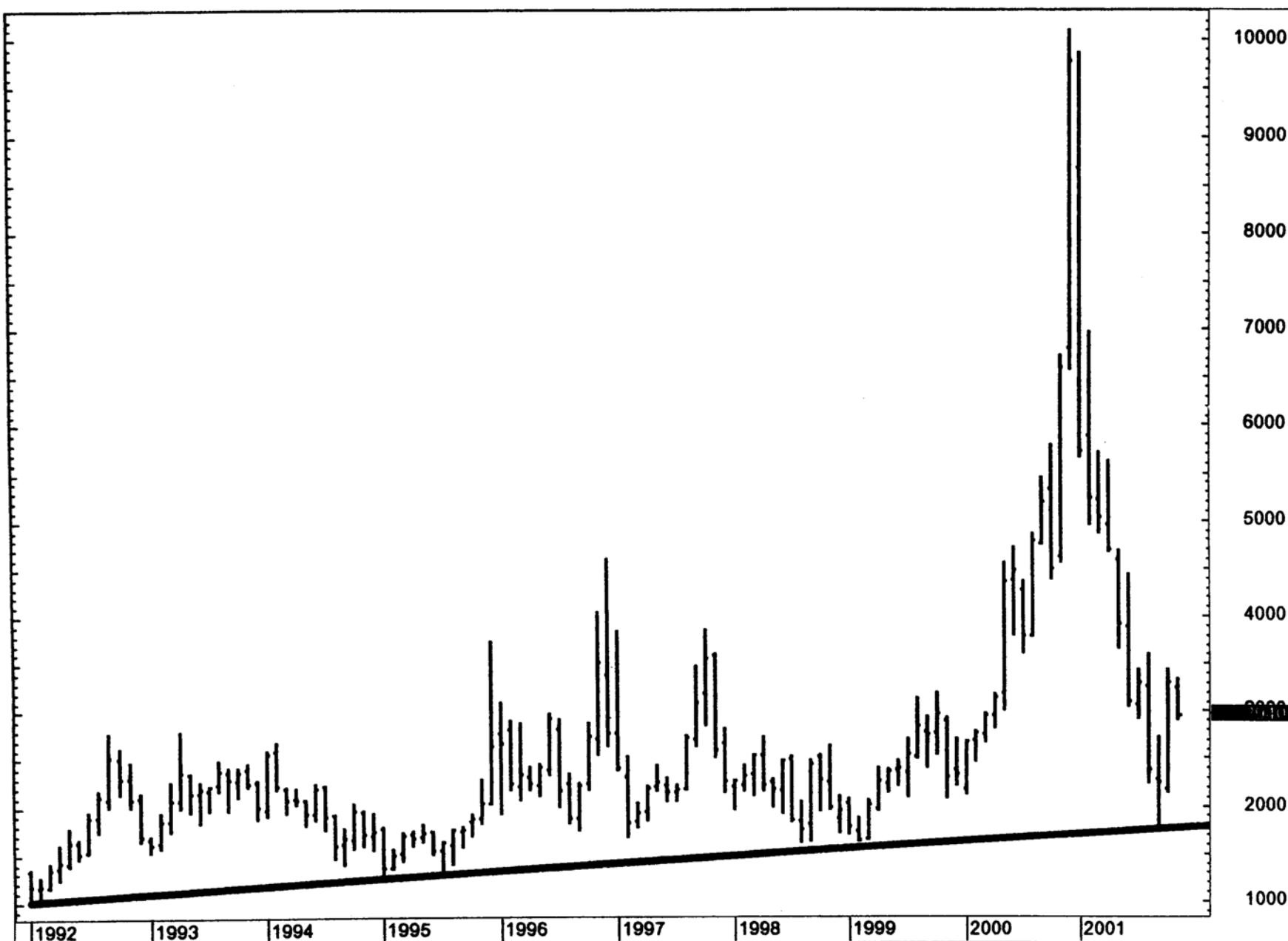
- **FUNDAMENTALS** – Production levels, drilling rig count, weather, consumer demand
- **TECHNICALS** – Price patterns, graphs of supply & demand functions

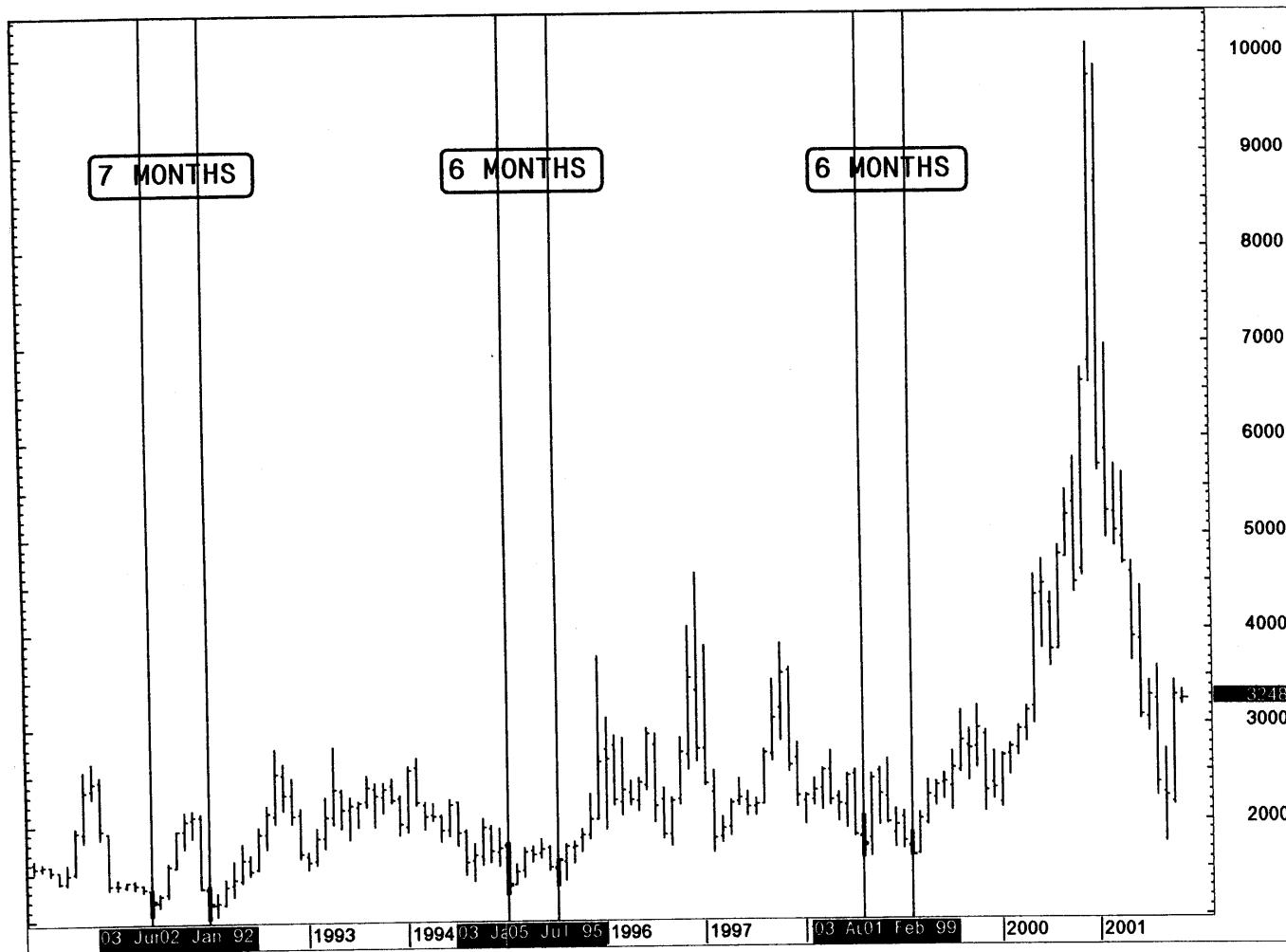
Baker Hughes North American Rig Count vs. NYMEX Settlements



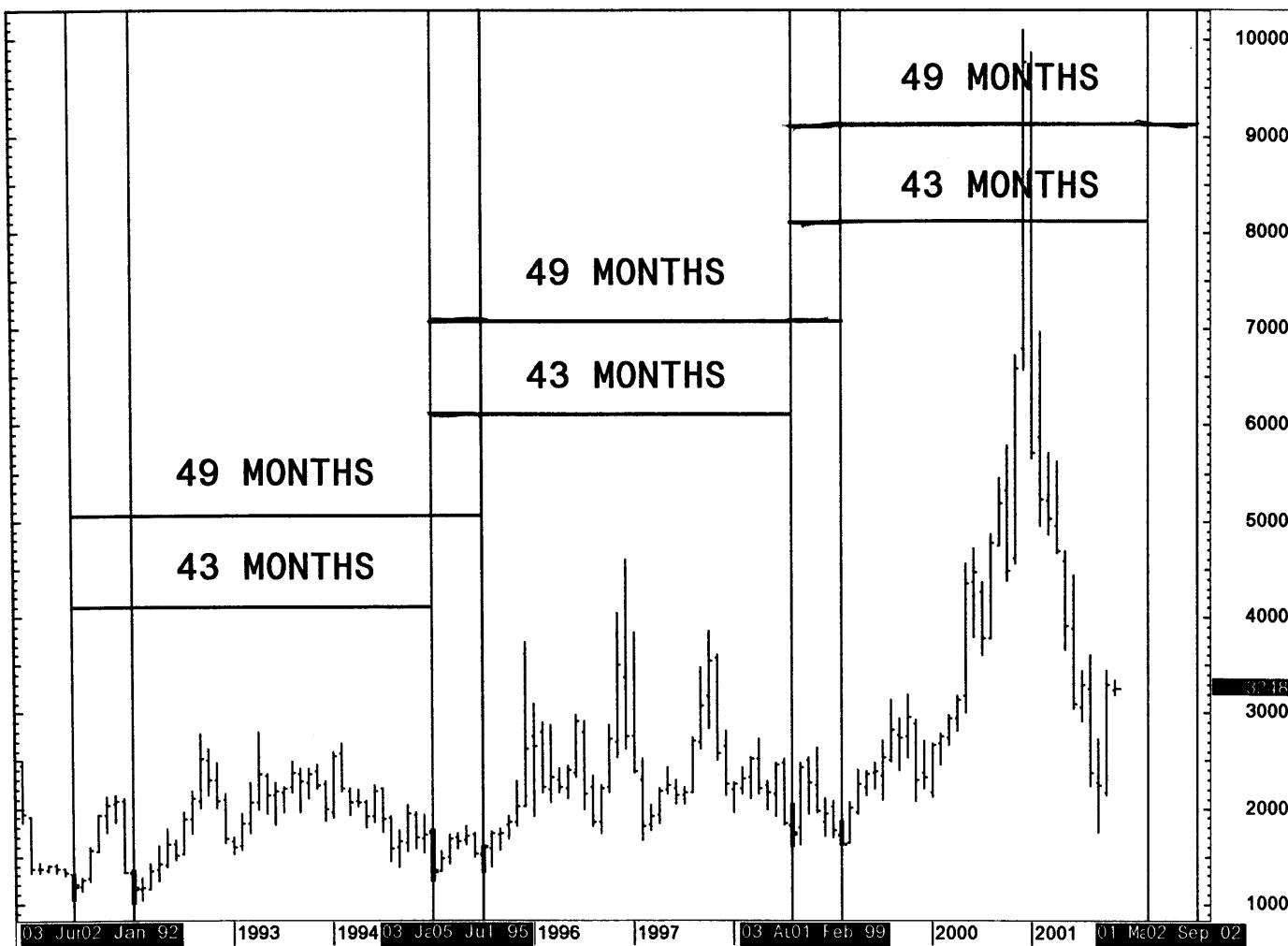
Note: Includes both Canadian & U.S. rigs





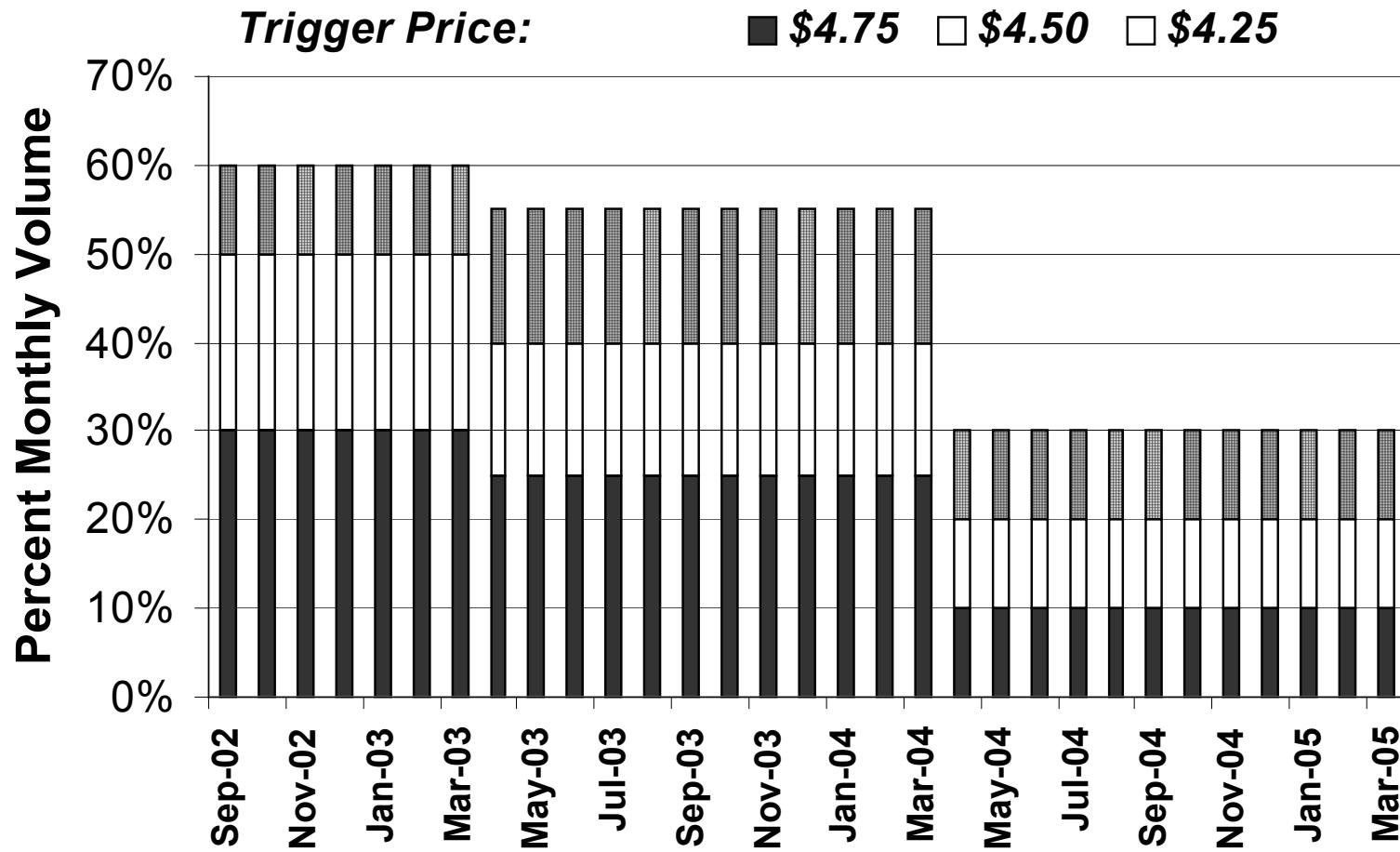


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Layered Hedge



HOW TO TAKE FULL ADVANTAGE OF THE CHANGING ENERGY MARKET

- Hedging natural gas costs.
- Demand reduction of power peak through control and management action.